

REMARKS

I. Introduction

Claims 1, 2, 4, 7, 11, 12, 14, 17, 18, and 21 are pending and are rejected. Claims 1 and 11 have been amended. Claims 3, 5, 6, 8, 9, 10, 13, 15, 16, 19, and 20 have been previously cancelled. Claims 1 and 11 are the only independent claims.

II. The Rejections

A. The Rejections Under §103

Claims 1-2, 4, 11-12, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,408,251 to Kaplan in combination with U.S. Patent No. 3,337,992 to Tolson. Claims 1-2, 4, 11-12, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kaplan in combination with U.S. Patent No. 5,576,670 to Heitschel. Claims 7 and 17-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kaplan and Tolson or Heitschel in combination with U.S. Patent No. 4,365,250 to Matsuoka. Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kaplan and Tolson or Heitschel in combination with U.S. Patent No. 4,206,491 to Ligman, U.S. Patent No. 4,369,399 to Lee, or U.S. Patent No. 4,305,060 to Apple. These rejections are traversed for the reasons stated below.

III. The Amendments

Claims 1 and 11 have been amended to include the following recitations: “and without consideration of alternative actions or maintenance of actuation of the close button to effect closure of the barrier.” Support for these recitations can be found in at least paragraphs [0021] and [0035] of the published application. These paragraphs disclose that the “close only” button 26 “when activated will cause garage door 14 to close if it is already open” and that actuating a close only button causes the door the close. There is no specification that the actuation of the close only button be held for any specific amount of time.

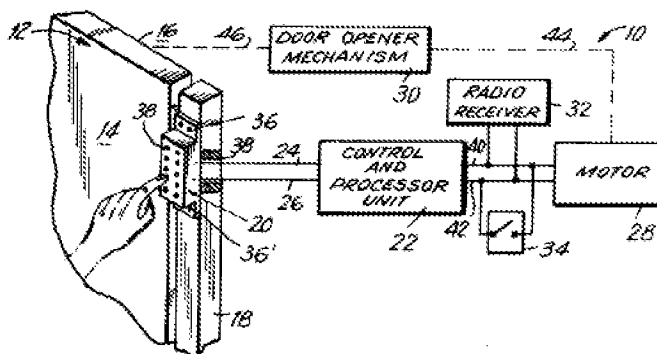
IV. The Claims are Allowable

A. The §103 Rejections are Traversed

1. Kaplan teaches away from combination with Tolson or Heitschel such that one skilled in the art would not modify Kaplan as claimed.

Claims 1-2, 4, 11-12, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,408,251 to Kaplan in combination with U.S. Patent No. 3,337,992 to Tolson. Claims 1-2, 4, 11-12, and 14 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Kaplan in combination with U.S. Patent No. 5,576,670 to Heitschel. We understand the Examiner to be relying upon the Tolson and Heitschel references to show wireless communication. Although both references disclose use of wireless communications in barrier operator systems, one skilled in the art would not modify Kaplan to include wireless communication between the keypad and controller as suggested by the Examiner when studying the teachings of Kaplan as a whole nor in view of the teachings of Tolson and/or Heitschel.

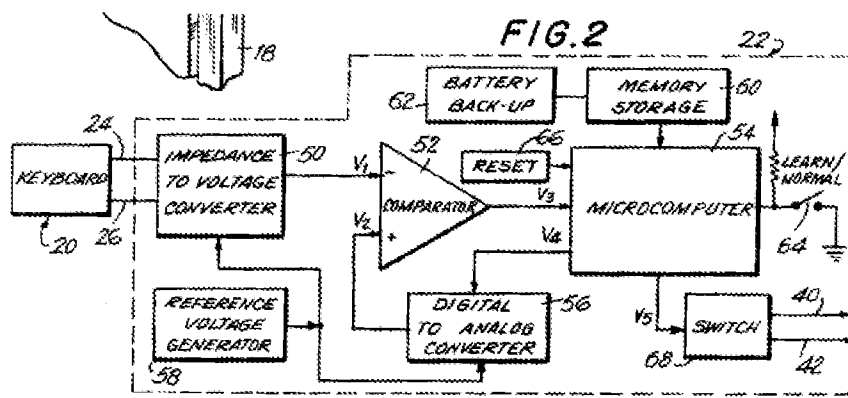
Kaplan describes a security system for a garage that is designed to be tamper-resistant. As shown in FIG. 1 of Kaplan (reproduced below for the convenience of the Examiner), a keypad 20 is coupled by control wires 24 and 26 to a control and processor unit 22. The control and processor unit 22 is not mounted with the keypad 20 but is mounted in the interior of the garage. See Kaplan Abstract and col. 4, lined 66-67. The control and processor unit 22 is also connected to a motor 28. An optional radio receiver 32 may transmit a control signal from the output of the control and processor unit 22 to the motor 28. See Kaplan col. 5, lines 27-35. The keypad 20, however, always uses a wired connection with the control and processor unit 22 to prevent tampering.



More specifically, Kaplan's wired connection between the keypad 20 and the control and processor unit 22 is central to its operation. Kaplan discloses a couple of different methods for communicating between the keypad 20 and the control and processor unit 22. In

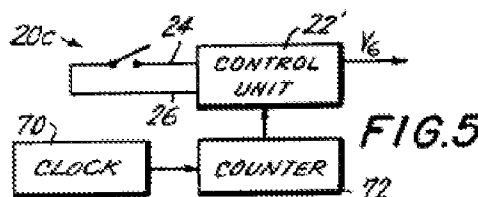
one embodiment, Kaplan operates by creating an analog signal when a button is pressed by the user based on resistors built into the device and determining whether the sequence of button presses results in an expected pattern of resistances. See Kaplan, col. 5, line 46 through col. 6, line 34. To sense resistances, the control and processor unit 22 must be connected by wires to the keypad 20 as shown in FIG. 1 above.

Kaplan discusses that the resistances may be translated into voltages and that the voltages are used by the system to determine whether and how to move a barrier. See Kaplan, col. 6, line 67 through col. 10, line 3 discussing the embodiment of FIG. 2 included below. This entire embodiment of Kaplan, however, assumes that the resistance signals have already been transmitted from the keyboard 20 via wires 24 and 26 to the control and processor unit 22. For instance, the transformation from resistances to voltages occurs at the impedance-to-voltage converter 50 that is located in the control and processor unit 22. See Kaplan col. 7, lines 9-12 et al. and FIG. 2. Such a system could not operate wirelessly between the keyboard 20 and the control and processor unit 22.



By another approach disclosed by Kaplan, the system determines whether an appropriate submission is received by sensing the length of time of the switch closures. See Kaplan, col. 6, lines 44-66, col. 10, lines 4-29, and FIG. 5 reproduced below for the Examiner's convenience. This embodiment again is looking at switch depressions only after a signal generated by the switch depression has been received by the control unit 22'. As shown in FIG. 5, the keyboard 20c switch is connected to the control unit 22' via wires 24 and 26. Kaplan teaches that the control unit 22' senses the impedance across the wires 24 and 26 to sense the timing of the closure sequence to determine whether the sequence

matches an expected sequence. See Kaplan, col. 6, lines 46-54. This impedance determination cannot be performed wirelessly.



Moreover, the Kaplan reference summarizes its disclosure with an explanation of the benefits of the two-wire connection between the keypad and the controller:

The transmission of a predetermined coded signal sequence over a two-wire line deters intruder interference, since he cannot compromise system security by gaining access to the two control wires. Only by depressing the correct switches within a defined time interval will the garage door be opened and/or closed. Breaking, shorting, or impressing external voltages or currents into the two-wire line will not activate the door. Inasmuch as only two control wires are necessary to transmit the coded signals no matter how many switches are located on the keyboard, the system can be easily retrofitted to any existing installation.

Kaplan, col. 10, line 64 through col. 11, line 7.

Accordingly, the Kaplan reference, when read as a whole, teaches specifically and directly away from providing wireless communication between the keypad of a security system and a controller for a barrier of the system. Kaplan also teaches specifically that only specific sequences or types of key presses will work to actuate the system; either by looking for specific sequences of resistances and/or by looking for a specific timing of button presses. Thus, modification of the Kaplan system to operate wirelessly between the keypad of a security system and a controller for a barrier of the system would result in a fundamental change in the operation of the device taught by Kaplan. See MPEP Section 2143.01, Section VI, "THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE" page 2100-141. A fundamental change to a device is not an obvious modification that would be within the scope of one skilled in the art.

In contrast, the entry control systems recited in claims 1 and 11 include the controller's being "operably and wirelessly coupled to the entry request device and the close button." For the reasons discussed above, the systems taught by Kaplan cannot simply include wireless communication between the keypad and the controller. The teachings of

Tolson and Heitschel fail to explain or show how such a modification of the basic operation of Kaplan would be obviously performed by one skilled in the art.

For instance, Tolson discloses that a wireless energy path may substitute for the wired connections described therein to operate remotely controlled closures. See Tolson, col. 3, lines 53-62. Tolson describes operating a closure by operating a motor to move a barrier for the amount of time that the wired or wireless connection indicates switch closure. See Tolson, col. 6, lines 41-58. Tolson does not teach full closure of a barrier in response to a brief button press. This simple transmission indicating switch closure could not transmit information regarding resistances as is required by Kaplan for operation, thereby fundamentally changing the operation of the device taught by Kaplan.

With respect to the combination of the Tolson teachings with the timing embodiment of Kaplan, claim 1 recites that “receipt of the close signal from the close button automatically causes the controller to issue a close barrier signal at the output in order to close the barrier without the need to authenticate any user authorization code and without consideration of alternative actions or maintenance of actuation of the close button to effect closure of the barrier.” Claim 11 includes a similar limitation. Tolson requires maintaining closure of the switch to continue barrier movement (see Tolson, col. 6, lines 41-58). This embodiment of Kaplan also requires specific timing of the switch closures to actuate. See Kaplan, col. 6, lines 44-66, col. 10, lines 4-29. Accordingly, neither Kaplan nor Tolson teach the closure of a barrier in response to actuation of a close button regardless of the actuation time of the close button.

Heitschel discloses a keypad transmitter 25 and keypad unit 60 that respond to button presses by wirelessly transmitting coded information. The wirelessly transmitted coded information consists of, for example, registered code words or a binary code representation of a particular key press. See Heitschel, col. 6, line 44 through col. 7, line 35. Wireless transmission of codes as taught by Heitschel does not teach transmission of a resistance or timing to be sensed by the controller as taught by Kaplan. Mere suggestion that wireless transmission of coded information does not make it likely that one of skill in the art would modify the device of Kaplan to send resistance settings wirelessly against the express teachings of Kaplan that a two wire connection is a preferred and secure method of communication between a keypad and a controller.

Because the combinations of Kaplan and Tolson and Kaplan and Heitchel would not lead one skilled in the art to create systems such as those recited in claims 1 and 11, it is submitted that the rejections over Kaplan and Tolson and Kaplan and Heitchel should be withdrawn. Claims 2, 4, and 7 depend from claim 1, and claims 12, 14, 17, 18, and 21 depend ultimately from claim 11. Because the rejections of claims 1 and 11 over Kaplan and Tolson and Kaplan and Heitchel are not proper, it is submitted that the dependent claims are also allowable over this rejection.

2. Matsuoka, Ligman, Lee, and Apple fail to remedy the shortcomings of the art discussed above.

As mentioned, claims 7 and 17-18 were rejected under §103(a) as being unpatentable over Kaplan and Tolson or Heitschel in combination with Matsuoka. Kaplan, Tolson, and Heitschel have been described above. Matsuoka does not remedy the deficiencies of these references. In particular, Matsuoka describes a garage door apparatus and a button 12. The button 12 is hardwired to the operator, however, and not wirelessly connected as recited in claim 1. See FIG. 1 of Matsuoka. Consequently, because at least one claim element is not taught or suggested by either of the references, it is submitted that claims 7 and 17-18 are allowable over the proposed combination.

As also mentioned, claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kaplan and Tolson or Heitschel in combination with Ligman, Lee, or Apple. Kaplan, Tolson, and Heitschel have been described above. Neither Ligman, Lee, nor Apple remedy the deficiencies of these references. In particular, Ligman teaches an entry system for an automobile. Ligman always uses wired connections and is silent as to any connection being wireless as recited in claim 1. Lee teaches a control circuit for a moveable barrier operator. Lee, however, is silent as to wireless communication between a keypad and the control circuit as recited in claim 1. Apple does not even relate to moveable barrier operators, much less key pads. Consequently, because at least one claim element is not taught or suggested by any of the references, it is submitted that claim 21 is allowable over the proposed combination.

IV. Conclusion

Applicants believe that the application is in condition for allowance, and a favorable action is respectfully requested. The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,

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